

# **ACCESSORIES DISPLAY BOX**

## **BACKGROUND OF THE INVENTION**

### **1. Field of the Invention:**

5 The present invention relates to an accessories display box for storing and showing tool accessories and, more particularly, to such an accessories display box that has fastening devices that fixedly secure the cover in the closed status to keep the display items in tact.

### **2. Description of the Related Art:**

10 Various accessories display boxes have been disclosed for use to keep and show tool accessories, and have appeared on the market. These accessories display boxes commonly have compartments for accommodating different tool accessories, and positioning means for keeping storage items in place. During  
15 exhibition, consumers may open the covers of the displayed accessories display boxes and pick up the storage items for visual inspection. Because the covers of conventional accessories display boxes can easily be opened, the display items may fall out of the accessories display boxes and scattered all over the surroundings.  
20 In order to prohibit consumers from opening the covers of accessories display boxes, adhesive tapes may be used to seal the covers. However, adhesive tapes can easily be broken, or detached from the accessories display boxes. Further, for holding a tool

handle, an accessories display box must be made having a certain height, i.e., the compartment for tool handle must be deep enough to hold the tool handle firmly in place. However, it is difficult to pick up the tool handle from the deep too handle compartment. If  
5 the reduce the depth of the tool handle compartment, the tool handle may fall out of the tool handle compartment easily.

### **SUMMARY OF THE INVENTION**

The present invention has been accomplished under the circumstances in view. It is the main object of the present invention  
10 to provide an accessories display box, which has fastening devices that fixedly secure the cover in the closed status to keep the display items in tact. It is another object of the present invention to provide an accessories display box, which has means to accommodate a tool handle for display without increasing the vertical height of the  
15 accessories display box, for enabling the consumers to touch the displayed tool handle with the hands when viewing the displayed tool handle.

To achieve these and other objects of the present invention, the accessories display box comprises a box body defining a  
20 plurality of compartments adapted to accommodate tool accessories, a cover adapted to cover the box body, and at least one fastening device adapted to fixedly secure the cover to the boxy body. Each fastening device comprises a female fastening member fixedly

provided at the box body, and a male fastening member fixedly provided at the cover and adapted to engage the female fastening member. The female fastening member comprises a through hole, and a plurality of crevices radially extended around the through hole and longitudinally extended along the axial length of the through hole. The male fastening member has a conical head insertable through the through hole. The conical head has a bottom edge, which stops the conical head from backward movement after insertion of the conical head through the through hole. The box body further comprises a recessed tool handle seat extended through the compartments and adapted to accommodate a tool handle. The cover has a handle hole disposed corresponding to the tool handle seat and adapted to receive a part of the tool handle being rested in the tool handle seat.

## **15 BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is an exploded view of the preferred embodiment of the present invention.

FIG. 2A is an assembly view of FIG. 1.

FIG. 2B is an enlarged view of a part of FIG. 2A showing the structure of the female fastening member.

FIG. 2C is an enlarged view of a part of FIG. 2A showing the structure of the male fastening member.

FIG. 3A is similar to FIG. 2A but showing the cover closed.

FIG. 3B is an enlarged view of a part of FIG. 3A showing the male fastening member fastened to the female fastening member.

FIG. 4 is a sectional view in an enlarged scale taken along  
5 line 4-4 of FIG. 3B.

FIG. 5A is a sectional view in an enlarged scale taken along line 5A-5A of FIG. 2A.

FIG. 5B is similar to FIG. 5A but showing the tool bit receptacle lifted from the box body.

10 FIG. 5C is similar to FIG. 5B but showing the tool bit receptacle turned to vertical.

#### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

Referring to FIG. 1, two accessories display boxes are shown abutted against each other, each accessories display box  
15 comprised of a box body 10, a cover 20 hinged to one side of the box body 10, and a lock 21 adapted to lock the cover 20 to the box body 10. The box body 10 has a plurality of compartments 11 adapted to accommodate tool accessories. The box body 10 and the cover 20 are respectively molded from transparent plastics so that  
20 the storage items (tool accessories) can be seen from the outside of the respective accessories display box.

Referring to FIGS. 2A~2C and FIG. 1 again, each accessories display box 20 further comprises a plurality of

fastening devices **30** adapted to fixedly secure the free end of the cover **20** to the box body **10**. Each fastening device **30** comprises a female fastening member **31** provided at the box body **10**, and a male fastening member **34** provided at the free end of the cover **20** and connectable to the female fastening member **31**. The female fastening member **31** has a through hole **32** extended through the top and bottom sides thereof, and a plurality of crevices **33** radially extended from the through hole **32** and cut through the top and bottom sides of the female fastening member **31**. Because of the presence of the crevices **33**, the through hole **32** is slightly radially expansible. The male fastening member **34** is a rod member extended from one peripheral side of the cover **20**, having a conical head **35**, a collar **36** extended around the periphery and spaced from the bottom edge **351** of the conical head **35** at a distance approximately equal to the depth of the through hole **32**. The diameter of the bottom edge **351** of the conical head **35** is slightly greater than the diameter of the through hole **32**.

Referring to FIGS. 3A, 3B, and 4, when closed the cover **20** at the first time, the male fastening member **34** of each fastening device **30** is fastened to the respective female fastening member **31** to fixedly secure the cover **20** to the box body **10** in the close position. By means of the conical head **35**, the male fastening member **34** can easily be inserted into the through hole **32** of the

respective female fastening member 31. After insertion of the male fastening member 34 into the through hole 32 of the respective female fastening member 31, the bottom edge 351 of the conical head 35 and the collar 36 are respectively stopped at the top and  
5 bottom sides of the female fastening member 31 outside the through hole 32, and therefore the male fastening member 34 and the female fastening member 31 are fixedly fastened together, and cannot be separated from each other unless breaking the male fastening member 34 from the cover 20.

10 Referring to FIG. 3A and FIGS. 1 and 2A again, each accessories display box further comprises a tool handle positioning structure. The tool handle positioning structure comprises a recessed handle seat 41 disposed in the compartments 11 of the box body 10 and adapted to accommodate a tool handle 40, and a handle  
15 hole 42 formed at the cover 20 corresponding to the recessed portions 41 and adapted to receive a part of the tool handle 40 and to hold down the tool handle 40 in the recessed handle seat 41. When the cover 20 closed and fixedly fastened to the box body 10, the cover 20 holds down the tool handle 40 in the recessed handle  
20 seat 41, preventing displacement of the tool handle 40.

Referring to FIGS. 5A~5C and FIGS. 1 and 2A again, each accessories display box further comprises a tool bit receptacle 50 fastened to the box body 10 and adapted to hold a set of tool bits 54

that are arranged in proper order subject to their lengths. The tool bit receptacle 50 has two polygonal coupling blocks 53 disposed at two opposite lateral sides adjacent to the bottom side 531 and respectively coupled to respective polygonal coupling holes 52 in the box body 10. Further, the bottom side 531 of the tool bit receptacle 50 is smoothly arched so that the tool bit receptacle 50 can be turned about the axis passing through the coupling holes 52 and positioned in one of a series of angular positions relative to the box body 10. Because the box body 10 is molded from plastics, the polygonal coupling blocks 53 can be turned with the tool bit receptacle 50 relative to the polygonal coupling holes 52 by force, and then quickly positioned in the desired angular position after release of external force. Further, an oblique stop wall 55 is provided inside the box body 10, and adapted to stop the storage tool bits 54 in the tool bit receptacle 50.

A prototype of accessories display box has been constructed with the features of FIGS. 1~5. The accessories display box functions smoothly to provide all of the features discussed earlier.

Although a particular embodiment of the invention has been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the spirit and scope of the invention. Accordingly, the

invention is not to be limited except as by the appended claims.